

## Freshwater Fisheries Monthly Report – April 2020

### Stock Assessment

**Deep Creek Lake Fish Population Surveys, 2019** - Staff compiled a comprehensive Northern Pike Research Project update for the Freshwater Fisheries Program webpage. The update provides a summary of the methods and results of the project from inception to present. The summary also provides the public with a better understanding of northern pike population dynamics in Deep Creek Lake. Staff updated information on the 2019 comprehensive fish population sampling of Deep Creek Lake for the web page as well. This information is provided to the public as a general review and status update of the lake's fish populations.



*Trophy northern pike from Deep Creek Lake*

**2019 Savage River Trophy Trout Population Surveys** - The Savage River trophy trout fishing area 2019 population survey results were updated on the Freshwater Fisheries Program webpage. The average combined adult trout species estimate was  $876 \pm 44$  trout per mile, slightly below our management objective of 1,000 adult trout per mile throughout the river. The adult trout population composition was 91 percent brown trout, six percent brook trout, and three percent rainbow trout. The fly fishing area contained about 827 adult trout per mile with 90 percent of the population consisting of wild brown trout and ten percent wild brook trout. The artificial lures and flies area contained about 924 adult trout per mile with the population consisting of 91 percent wild brown trout, three percent wild brook trout and six percent rainbow trout. Reproduction was considered “good” with an average estimate of 704 young-of-year per mile (25 percent brook trout and 75 percent brown trout) during 2019. A large portion of the brown trout population was in the quality-size range of 12 to 15 inches. The number of quality-sized brown trout (greater than 12 inches) was estimated at 286 trout per mile. The largest brown trout collected during the surveys measured in at 16.1 inches. The largest brook trout collected during the sampling efforts was a 12.5 inch trophy.



*Trophy brook trout from Savage River trophy trout fishing area*

**2019 North Branch Potomac River Zero Creel Limit Trout Fishing Area Surveys** - The North Branch Potomac River zero creel limit trout population survey was updated on the Freshwater Fisheries Program webpage. The entire 20 mile management area was sampled from Westernport to Pinto during 2019. A 16-foot inflatable boat equipped with an electrofishing unit was used to collect fish in the river. The rainbow trout population was characterized by having multiple year classes from four inches to 20.5 inches, and exhibited overall optimal body condition. About 33 percent of all rainbow trout collected in the survey were greater than 12 inches. The brown trout population was characterized by having multiple year classes from 7.3 inches to 20.5 inches, and exhibited overall optimal body condition. About 53 percent of all brown trout captured in the survey were greater than 12 inches.



*Rainbow trout (top) and brown trout (bottom) collected during the 2019 North Branch Potomac River trout population survey.*

**Smallmouth Bass** - As part of ongoing efforts to improve smallmouth bass numbers in the upper Potomac River, staff were able to collect 40 adult fish by boat electrofishing for use as broodfish in the state's warmwater hatchery. Staff wore the recommended PPE and practiced social-distancing guidelines throughout the collection. Fish ranged in size from 14-19 inches, with several weighing more than 4 pounds. The smallmouth were transported to rearing ponds at Joseph Manning Hatchery where spawning efforts should start in the next few weeks as water temperatures increase.



*Adult smallmouth bass collected from the upper Potomac River*

## **Habitat and Water Quality**

**Environmental review** - Provided aquatic resource information for the following environmental review project:

- State Highway application for a single slab structure replacement over an unnamed tributary of the Youghiogheny River in Redhouse, Maryland. This project is intended to replace the current deteriorating slab structure due to concern for public safety. Recommendations were given for the Use III-P stream to ensure the construction has no negative impacts on the stream and the required mitigation is completed after construction.
- State Highway application for a project on Alternate US Route 40 over Two Mile Run. The proposed project consists of concrete paving of an existing invert pipe. Guidelines and recommendations were given for this Use-III stream that is inhabited by brook trout, to protect this fishery and enhance habitat through the mitigation phase. This project also falls within a nontidal wetland. Extra precautions were recommended through the construction phase to protect the fauna and hydraulic conditions of the wetland.

Mitigation recommendations were given to ensure that pre construction conditions are present after construction is complete.

- Staff performed an impromptu site visit to a stream restoration project for a portion of Charles Branch at Rosaryville State Park (Prince George's County). The stream is a feeder creek to Western Branch, a large tributary to the tidal freshwater Patuxent River. The project is ongoing but a considerable amount of work has been done thus far.



*Charles Branch (Rosaryville State Park) stream restoration project, April 2020*

- Three culvert repair/replacement projects in Frederick County (two Frederick County Highway, one private). Appropriate time of year restrictions for instream construction based on stream designated Use Classification were recommended as well as precautions to safeguard against pH spikes from water contact with curing concrete/grout, maintaining fish passage, and restoring riparian vegetation following construction.
- Recommended natural alternatives such as floodplain connection, root wads, and establishing riparian vegetation on a coldwater stream in Frederick County to address erosion of cropland during high flows. The original request was to create flood control berms along the streambank which would have confined flows and increased velocities/erosion.

**SWOT Analysis** - Compiled a strengths, weaknesses, opportunities, and threats (SWOT) analysis packet for Big Run, Dan's Mountain, and Casselman River state parks. The packets are provided to make comments and develop a strategic management plan for the state parks. Comments on SWOT of natural resources were provided. Recreational resource development

information was also provided and comments will help the Park Service with future enhancement projects.

**Timber Harvest** - Provided information to a landowner in regards to a complaint on poor timber harvest practices. Staff was contacted due to neighboring lands being timbered and concern for erosion from haul roads in the upper reaches of Mill Run (Friendsville, Maryland). Staff contacted Maryland Department of Environment (MDE) about the situation and provided contact information for the landowner and an investigation was done. This particular job has been inspected and is now required to clean up haul roads and correct conditions as soon as possible.

**Acid Mine Drainage** - Participated in a video conference meeting with Morgan State University researchers and MDE Abandoned Mine Lands Division to discuss the economic impact of acid mine drainage remediation projects and the resulting value of recreational trout fishing.

**Youghiogheny River** - Reviewed Versar Inc.'s draft report entitled Youghiogheny River Temperature Enhancement Protocol: Results for 2019. Freshwater Fisheries Program agreed to expand our temperature monitoring efforts from May 15 to September 15 to determine if an extended timeframe for temperature enhancement releases is warranted.

**South Branch Bear Creek** - Corresponded with U.S. Fish and Wildlife personnel regarding the South Branch Bear Creek Fish Passage Project. They advised that the original design to remove the collapsed culvert bridge and replace it with a single span bridge is being modified but construction is still expected to begin this summer.

**State Lake Restoration Grant** - Distributed a list of potential FY2021 State Lake Restoration Grant projects to regional managers for comment. Current projects covered under FY2020 funding which are being administered by Freshwater Fisheries staff are continuing to move forward, albeit slowly due to limitations of COVID-19. Staff is currently submitting invoices from the vendor to procure reef ball molds for habitat creation in St. Mary's and Deep Creek lakes. The intent of the reef ball projects is to provide mitigation for habitat loss due to herbicide treatments of submerged aquatic vegetation, as well as to enhance the fishery by increasing the amount and diversity of habitat in the lake. The Urieville Lake dredging project has slowed as well, as site visits with interested landowners and cooperating agencies are not possible at this time. An alternative dredge disposal area is currently being discussed that could streamline the process moving forward.

## **Stocking and Population Management**

**Brown Trout** - The Youghiogheny River catch-and-return trout fishing area and the North Branch Potomac River zero creel limit trout fishing area were each stocked with 2,500 brown trout (2.7/pound) from the Cushwa Hatchery.

**Walleye** - The Savage Reservoir was stocked with 30,000 walleye juveniles from the Joseph Manning Hatchery. Anglers are reporting catching legal size walleye in the reservoir. The reservoir was drained in 2010 in order to make repairs to the dam structures, and we have been attempting to re-establish the walleye population by annual juvenile stockings.

The Susquehanna River below Conowingo Dam was stocked with 35,000 walleye fingerlings produced at the Josephy Manning Hatchery. Additional walleye stocking will take place in the upper Potomac River during early May.

**Pond Stocking Permits** - Fourteen pond stocking permits were issued for April.

## **Outreach**

**Customer Service** - Provided information for inquiries regarding:

- emergency trout stocking; designated trout water regulations;
- opening date of walleye season along with its creel and possession limits
- aquatic macroinvertebrate identification;
- Governor's Stay at Home Order as it pertained to recreational fishing;
- fish consumption advisory for Savage Reservoir;
- public access to the Folly Run tract of the North Branch Potomac River fishery management area;
- Potomac River spring flows and their potential impact of smallmouth bass recruitment;
- current status of walleye production and 2020 stocking locations

**Deep Creek Lake State Park** - Coordinated with Deep Creek Lake State Park to provide proper information in regards to the ability to launch a boat at the park. Staff also obtained information from park staff to provide answers to out of state anglers wanting to fish at Deep Creek Lake. Due to an angler complaint, staff also contacted park staff to provide information in regards to the park's dock replacement plan.

Worked with the Youghiogheny Chapter of Trout Unlimited to highlight some of our cooperative projects for their webpage. These projects included the Muddy Creek liming project, the Cove Run, Little Laurel Run, and Hoyes Run riparian zone restoration projects, as well as the annual stream clean-up along the lower Savage River trophy trout fishing areas.

Provided updated content and photographs for Freshwater Fisheries Program webpage to better inform anglers and stakeholders of recent work performed by regional biologists.

Participated in several virtual meetings with Aquatic Resources Education and Stakeholder Outreach Services staff to discuss education and outreach projects and how we can work together to promote angler recruitment, retention and reactivation (R3) and fishing opportunities.

## **Invasive Species**

**Blue Catfish** - Southern and Central regions continued to collect and examine blue catfish from the Patuxent River as part of a research project to determine dietary preferences of blue catfish of varying sizes throughout the year. The spring portion of the diet study, so far, shows that blue catfish still rely heavily on resident white perch, but that shiners of various sizes and a host of other species, in smaller proportions, are utilized by blue catfish. Water temperatures are mostly in the 50s and summertime vegetation such as arrowroot and common lilies are still early in their growing season. The pandemic, which has forced so many people from their usual workday, have allowed people to favor waterways over beltways. Folks are taking full advantage of the perch runs around Waysons Corner. Anglers, in higher than usual numbers, were fishing

both shores of the Patuxent but still keeping more than six feet apart. In these trying times, it was refreshing to see folks of all ages laughing and enjoying a day on the river and being able to take a few fish home in the evening.

**Catfish** - Biologists noted an increase in fishing activity on the tidal, freshwater Patuxent River. Although the anglers are largely targeting white perch, they also encounter blue catfish and channel catfish. The species are similar in appearance and can be difficult to distinguish. Anglers are reminded that while coloration of fish can vary widely, channel catfish tend to have an olive or yellowish coloration and dark spots on the body and blue catfish tend to be slate-colored and lack spots. The eyes of blue catfish tend to be lower on the head as well. The most accurate method to identify the fish requires examination of the anal fin. Channel catfish have a rounded anal fin margin, and the anal fin has 24 to 29 fin rays. Blue catfish have a straight anal fin margin and 30 to 35 fin rays on the anal fin.



*Anal fin comparison of blue catfish and channel catfish.*

Blue catfish is an invasive species that has spread rapidly throughout the Chesapeake Bay watershed, in part due to their opportunistic nature. The stomach of one recently dissected fish from the freshwater Patuxent River contained a disposable latex glove. As people take precautions during the COVID-19 pandemic, carelessly discarded latex and nitrile gloves have entered our waterways. Anglers should be reminded of the importance of properly discarding their waste while remaining vigilant and keeping safe.



*Remains of a latex glove found in the stomach of a blue catfish.*

An acoustic transmitter was found inside a blue catfish from the tidal Patuxent River while biologists performed a dissection for stomach content analysis. Acoustic transmitters are commonly implanted into fish and used, along with a series of receivers that detect its signal, to monitor and track movement. This tag was reported to biologists at the Smithsonian Environmental Research Center and found to be one of theirs. The fish was 26 inches, 6.3 pounds when initially tagged at Jug Bay on the Patuxent River during summer 2014. It had grown to 31.5 inches and 17.8 pounds when captured by department biologists.



*Transmitter found in blue catfish.*

**Invasive Species Matrix Team** - The team met to discuss the \$120,000 in proposed projects for the 2021-22 year. The work will be pruned to approximately \$100,000, which is slightly greater than the allotment by the Aquatic Nuisance Species Task Force.

**Northern Snakehead** - Staff posted two reports to the [department's snakehead webpage](#) to convey information on dietary habits and possible impacts on prey populations.

## **Brook Trout Program**

Continued a comprehensive data review and analysis of the 13-year annual data set collected in the upper Savage River special brook trout management area since the regulation was implemented in 2007. A teleconference was held with researchers from University of Maryland's Centers for Environmental Sciences Appalachian Lab, U.S. Geological Survey Leetown Science Center, and staff to discuss preliminary findings and plan additional analysis review and direction. This collaboration will continue as the analysis proceeds.

The brook trout program website was updated and revamped to reflect new information and provide new content. The website can be accessed [here](#).

Continued work on the draft statewide brook trout conservation plan. This included developing a draft conservation plan document and draft summary descriptions for the 10 Level 1 brook trout patches that were identified from the rating criteria analysis effort. This plan will supersede the initial Brook Trout Fisheries Management Plan developed in 2006, building off the completed portions of that plan and creating a road map for the future of brook trout restoration and conservation statewide for Maryland for the long term.

Migrated the North Branch Potomac River and Savage River real-time temperature probes linked to the new hydrosphere platform and are working to establish access to the data to all interested constituents. These probes provide real time water temperature data from locations near the mouth of the lower Savage River and the bridge crossing near Keyser, West Virginia.

Worked on two draft abstracts for submission for the Wild Trout meeting in the fall of 2020.

## **Tidal Bass Program**

Black Bass Advisory Subcommittee met to discuss stocking strategies and departmental updates on delays in field work owed to COVID-19, stock status, and on-going projects.

Staff met with Park Service and Engineering staff to discuss a breakwater design at Rogues Harbor on Elk River (Elk River State Park). A scope of work is being created.

## **Other**

**Website Updates** - Staff continue to update our webpage with new, interesting, and informative information for our constituents. For example, a summary report of small impoundment electrofishing surveys for the last two years was completed and posted. It will educate our anglers about the work we do, and the status of fisheries in those impoundments. Another document has been posted which summarizes the current research being conducted on flathead catfish in the Susquehanna River watershed. In addition to the research summary,

there is a section dedicated to teaching anglers how to target these invasive predators. The hope is more anglers will begin to do so and reduce their numbers and their impact to the ecosystem.